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Nitrogen-Ammonia/ Nitrate/Nitrite

Water Quality Standards Criteria Summaries A Compilation of State/Federal Criteria

NITROGEN - AMMONIA/NITRATE/NITRITE

Water Quality Standards
Criteria Summaries
A Compilation of State/Federal Criteria

September 1980

U. S. Environmental Protection Agency
Office of Water Regulations and Standards
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NATIONAL SUMMARY

OF

STATE WATER QUALITY STANDARDS

NITRATES/NITRITES/AMMONIA

SEPTEMBER, 1980

PREPARED FOR

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

CRITERIA AND STANDARDS DIVISION

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INTRODUCTION

This digest is compiled to provide general information to the public as well as to Federal, State, and local officials. It contains excerpts from the individual Federal-State water quality standards establishing pollutant specific criteria for interstate surface waters. The water quality standards program is implemented by the U. S. Environmental Protection Agency where responsibility for providing water quality recommendations, approving State-adopted standards for interstate waters, evaluating adherence to the standards, and overseeing enforcement of standards compliance, has been mandated by Congress.

Standards, a nationwide strategy for surface water quality management, contain three major elements: the use (recreation, drinking water, fish and wildlife propagation, industrial, or agricultural) to be made of the navigable water; criteria to protect these uses; and an antidegradation statement to protect existing high quality waters, from degradation by the addition of pollutants.

Water quality criteria (numerical or narrative specifications) for physical, chemical, temperature, and biological constituents are stated in the July 1976 U. S. Environmental Protection Agency publication Quality Criteria for Water (QCW), available from the Government Printing Office, Washington, D. C. The 1976 QCW, commonly referred to as the "Red Book," is the most current compilation of scientific information used by the Agency as a basis for assessing water quality. This publication is subject to periodic updating and revisions in light of new scientific and technical information.

Criteria for ammonia, nitrate or nitrite nitrogen in State water quality standards are the subject of this digest. Ammonia in most waters is a biological degradation product of nitrogenous organic matter. When dissolved in water, ammonia will react with the water to form ammonium ions. Ammonium can also be released from proteinaceous organic matter and urea, or synthesized from nitrogen fixation. Nitrate is formed from the complete oxidation of ammonium by certain micro organisms in which nitrite is an intermediate product. In well oxygenated waters nitrite is readily oxidized to nitrate. The rationale for establishing water quality criteria for these three common molecular forms of nitrogen are:

(1) ammonia toxicity to aquatic life is well documented and its toxicity is directly dependent on the pH of the water in which it is dissolved;

(2) growing plants assimilate nitrate and ammonium ions into plant proteins; and

(3) both nitrate and nitrite nitrogen are toxic to aquatic life where specific concentrations of either are reached in a waterbody.

To prevent the nuisance and toxic effects of any of the nitrogen forms, the 1976 Quality Criteria for Water recommends the following criteria:

0.02 mg/l (as un-ionized ammonia) for freshwater aquatic life.

Concentrations of total ammonia (NH_3 + NH_4^+) which contain an un-ionized ammonia concentration of 0.020 mg/l NH_3(mg/l)

Temperature (°C)	pH Value								
	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
5...	160.	51.	16.	5.1	1.6	0.53	0.18	0.071	0.036
10...	110.	34.	11.	3.4	1.1	0.36	0.13	0.054	0.031
15...	73.	23.	7.3	2.3	0.75	0.25	0.093	0.043	0.027
20...	50.	16.	5.1	1.6	0.52	0.18	0.070	0.036	0.025
25...	35.	11.	3.5	1.1	0.37	0.13	0.055	0.031	0.024
30...	25.	7.9	2.5	0.81	0.27	0.099	0.045	0.028	0.022

10 mg/l nitrate nitrogen (N) for domestic water supply (health).

Since water quality standards experience revisions and upgrading from time to time, following procedures set forth in the Clean Water Act, individual entries in this digest may be superseded. As these revisions are accomplished and allowing for the States to revise their standards accordingly, this digest will be updated and reissued. Because this publication is not intended for use other than as a general information resource, to obtain the latest information and for special purposes and applications, the reader needs to refer to the current approved water quality standards. These can be obtained from the State water pollution control agencies or the EPA or Regional Offices.

Individual State-adopted criteria follow:

REFERENCES

A California Water Quality Standards by River Basins, c.a. 1975

For more detailed information on selected basins, sub-basins and stretches of streams and coastal areas refer to California State Water Quality Standards.

B Delaware Water Quality Standards, March 25, 1979

C Idaho Water Quality Standards, c.a. September, 1979

D Missouri Water Quality Standards, c.a. February, 1978

E American Samoa Water Quality Standards, Revised July, 1973

F Territory of Guam Water Quality Standards, Sept. 1975

G Trust Territory of the Pacific Islands Water Quality Standards, October 21, 1973

H Virgin Islands Water Quality Standards, Aug. 1973

ENVIRONMENT REPORTER, The Bureau of National Affairs, Inc. Washington, D. C. 20037

1 Pages 701:0501-0509, February 16, 1979

2 Pages 706:1004-1008, July 20, 1979

3 Pages 711:0542-0544, August 5, 1977

4 Pages 716:0603, March 26, 1976

5 Pages 726:1005, 1011-1013, March 7, 1980

Basic Water Quality Standards adopted May 22, 1979, have not yet been submitted to EPA for formal approval.

6 Pages 731:1002-1009, September 8, 1978

7 Pages 746:1008-1014, October 19, 1979

8 Pages 751:0504-0505, January 25, 1980

9 Pages 765:0512-0515, January 30, 1976

10 Page 761:0503-0504, 1973

11 Page 766:0504-0509, October 5, 1979

12 Pages 771:0502-0504, September 29, 1978

13 Pages 776:0504-0506, April 10, 1979

14 Pages 781:0501-0502, May 18, 1979

15 Pages 786:0501-0502, August 29, 1975

16 Page 791:0583, May 26, 1978

17 Pages 796:0103-0108, February 16, 1979

18 Pages 801:1001-1002, Sept. 29, 1978

19 Page 806:1003, March 30, 1979

20 Page 811:1043, 1974

21 Pages 816:0602-0607, 0642-0648, 1974

22 Pages 821:0502-0505, June 30, 1978

23 Pages 831:0501-0510, February 21, 1975

24 Page 836:0502, June 30, 1978

25 Pages 841:0507-0537, December 7, 1979

26 Pages 846:0501-0508, November 17, 1978

27 Pages 851:1001-1023, December 15, 1978

28 Pages 856:1001-1002, July 18, 1978

29 Pages 861:1002-1007, August 11, 1979

30 Pages 866:1004-1009, December 28, 1979

31 Pages 871:0501-0506, November 25, 1977

32 Pages 876:1001-1043, May 26, 1978

33 Pages 881:1001-1007, September 21, 1979

34 Pages 886:0513-0524, August 29, 1975

35 Pages 891:1001-1129, November 16, 1979

36 Pages 901:0501-0505, November 3, 1978

37 Pages 906:0501-0506, October 13, 1978

38 Pages 911:0501-0507, June 22, 1979

39 Pages 916:0541-0544, April 14, 1978

40 Pages 921:1001-1003, August 13, 1976

41 Pages 926:0541-0563, January 26, 1979

42 Pages 931:0501-0508, May 26, 1978

43 Pages 936:1001-1003, June 27, 1975

44 Pages 941:1001-1005, May 26, 1978

45 Pages 946:0501-0520, July 14, 1978

46 Pages 951:1002-1003, April 28, 1978

47 Pages 956:1001-1007, January 11, 1980

48 Page 741:1002, November 23, 1979

49 Pages 896:0301-0310, March 31, 1978

NITRATES/NITRITES/AMMONIA

State	Criteria Values in mg/l	Designated Stream Use
Alabama[1]	Not specified	All
Alaska[2]	Not specified	All
Arizona[3]	A. The mean annual total nitrate concentrations of the following waters shall not exceed the values given below nor shall the total nitrate concentrations of more than 10 percent of the samples in any year exceed the 90 percent values given below. Unless otherwise specified, indicated values also apply to tributaries to the named waters.	
	Total nitrates as NO_3 mg/l	
	4 Mean annual 7 90 pct-value	Colorado River from Utah border to Willow Beach (main stem)
	5 Mean annual	Colorado River from Willow Beach to Parker Dam (main stem)
	5 Mean annual 7 90 pct-value	Colorado River from Parker Dam to Imperial Dam (main stem)
	5 Mean annual 7 90 pct-value	Colorado River from Imperial Dam to Morelos Dam (main stem)
	B. The above standards are intended to protect the beneficial uses of the named waters. Because regulation of nitrates and phosphates alone may not be adequate to protect waters from eutrophication, no substance shall be added to any surface water which produces aquatic growth to the extent that such growths create a public nuisance or interference with beneficial uses of the water defined and designated in Reg. 6-2-6.5.	

State	Criteria Values in mg/l	Designated Stream Use
Arkansas[4]	Not specified	All
	Nutrients - The naturally occurring nitrogen/phosphorus ratio shall not be significantly altered due to municipal, industrial, agricultural or other waste discharges, nor shall total phosphorus exceed 100 ug/l in streams or 50 ug/l in lakes and reservoirs due to any such discharges.	
California[A]	Nitrates + total nitrites	
	10	All
	100	Livestock watering (Basin 3)
	Ammonia - not specified	All
	Un-ionized ammonia - some basins	
	Note: See California State Water Standards for specific rivers, basins and coastal waters.	
Colorado[5]	Ammonia (as N)	
	0.02 (un-ionized)	Cold water biota
	0.06 (un-ionized)	Warm water biota
	0.5	Domestic water supply
	Nitrate (as N)	
	100[1]	Agriculture
	10	Domestic water supply
	Nitrite (as N)	
	0.05	Cold water biota
	0.5	Warm water biota
	10[1]	Agriculture
	1.0	Domestic water supply
	[1] In order to provide a reasonable margin of safety to allow for unusual situations such as extremely high water ingestion or nitrite formation in slurries, the NO_3-N plus NO_2-N content in drinking waters for livestock and poultry should be limited to 100 ppm or less, and the NO_2-N content alone be limited to 10 ppm or less.	

State	Criteria Values in mg/l	Designated Stream Use
Connecticut[6]	Not specified	All
Delaware[B]	Ammonia - N 0.4	Public water supply
	Total nitrogen 3.0	Public water supply
Florida[7]	Nitrate - 10.0 as N or that concentration determined in Nutrients below	Public water supply
	Nitrite - Not specified	All
	Ammonia (un-ionized) 0.02	Public water supply, shellfish, recreation
	Nutrients - In no case shall nutrient concentrations of a body of water be altered so as to cause an imbalance in natural populations of aquatic flora and fauna.	Public water supply, shellfish, recreation
Georgia[8]	Not specified	
Hawaii[9]	Total nitrogen, not greater than 0.10 mg/l	Class AA
	Total nitrogen, not greater than 0.15 mg/l	Class A
	Total nitrogen, not greater than 0.20 mg/l	Class B
Idaho[10]	Not specified	All
Illinois[11]	Ammonia (as N) 1.5 mg/	All waters except secondary contact and indigenous aquatic life and Lake Michigan
	Ammonia Nitrogen as N. (Storet No. 00610). No effluent from any source which discharges to the Illinois River, The DesPlaines River downstream of its confluence with the Chicago River System, or the Calumet River System, and whose untreated waste load is 50,000 or more population equivalents shall contain more than 2.5 mg/l of ammonia nitrogen as N -	Secondary contact and indigenous aquatic life waters

State	Criteria Values in mg/l	Designated Stream Use
Illinois (con't)	during the months of April through October, or 4 mg/l at other times, after December 31, 1977. Sources discharging to any of the above waters and whose untreated waste load cannot be computed on a population equivalent basis comparable to that used for municipal waste treatment plants and whose ammonia nitrogen discharge exceeds 100 pounds per day shall not discharge an efffluent of more than 3.0 mg/l of ammonia nitrogen after December 31, 1974.	
	0.02 mg/l	All Lake Michigan Waters
	10.0 mg/l Nitrate-Nitrogen	Public and Food Processing water supply
	1.0 mg/l Nitrite-Nitrogen	Public and Food Processing water supply
Indiana[12]	The bioassay criterion for toxic substances of 1/10 x 96 hr TLM applies to ammonia in all waters except those listed in the specific standards as follows:	
	Unionized Ammonia 0.03 mg/l - Monthly Ave. 0.1 mg/l - Daily Max.	Inner Harbor, Gary Harbor, Burns Harbor
	0.02 mg/l Monthly Ave. 0.05 mg/l - Daily Max.	Lake Michigan
	1.5 mg/l total Ammonia Nitrogen	Grand Calumet River and Indiana Harbor Ship Canal
	0.02 mg/l Unionized Ammonia	Wolf Lake and Wolf Lake Harbor
	Ammonia Toxic Substances: The concentration of toxic substances shall not exceed those values listed in the United States Environmental Protection Agency Administrator's Quality Criteria for Water 1976 for the protection of sensitive aquatic life. (For Ammonia this value is 0.02 mg/l NH_3)	Natural Spawning and Rearing or Imprinting Areas for Salmonid Fishes
	Toxic Substances: Not to exceed one-tenth of the 96-hour median tolerance limit of salmonid fishes or the natural	Migration Routes for Salmonid Fishes

State	Criteria Values in mg/l	Designated Stream Use
Indiana (con't)	biota obtained from continuous flow bioassays where the dilution water and toxicant are continuously renewed, except that other lower application factors may be used in specific cases when justified on the basis of available evidence.	
	Nitrates and Nitrites: Plant Nutrients: Free from substances attributable to municipal, industrial, agricultural or other sources in concentrations or combinations which will cause or contribute to the growth of aquatic plants or algae in such degree as to create a nuisance, be unsightly or deleterious, or be harmful to salmonid fishes or the natural biota. (Stream Pollution Control Board of the State of Indiana; SPC 12R, Sec.B; filed May 26, 1978, 3:30 PM 1 IR 100)	Natural Spawning and Rearing or Imprinting Areas for Salmonid Fishes
	Plant Nutrients: Free from substances attributable to municipal, industrial, agricultural or other sources in concentrations or combinations which will cause or contribute to the growth of aquatic plants or algae in such degree as to create a nuisance, be unsightly or deleterious, or be harmful to salmonid fishes or the natural biota.	Migration Routes for Salmonid Fishes
Iowa[13]	Ammonia (N) 5 (Nov 1 - March 31) 2 (April 1 - Oct. 31)	Warm water fish and aquatic life, secondary recreation
	2.5 (Nov.1 - March 31) 1.0 (April 1 - Oct. 31)	Cold water fish and aquatic life, secondary recreation.
	Nitrate (NO_3) 45	Public water supply
	Nitrite - Not specified	All
Kansas[14]	Ammonia: Man-made sources shall not cause the undissociated ammonium hydroxide concentration of waters of the state to exceed 0.15 mg/l as N.	All

State	Criteria Values in mg/l	Designated Stream Use
Kansas (con't)	Nitrites - Not specified	All
Kentucky[15]	Ammonia 0.05	All
Louisiana[16]	Not specified	All
	Nutrients - the naturally occurring nitrogen phosphorous ratio shall be maintained.	
Maine[17]	Not specified	All
Maryland[18]	Not specified	All
	The state recognizes that certain waters of the State are eutrophic or are approaching eutrophic conditions. All discharges to waters which are eutrophic or potentially eutrophic, when so identified by the State, shall be treated as necessary to reduce eutrophic effects. The State shall require that wastewaters, containing nutrients which cause or may cause eutrophication be given advanced waste treatment prior to discharge, or be disposed of by spray irrigation on land, or by other practicable procedures which will avoid direct discharge to surface waters.	
Massachusetts[19]	Nitrate: 10	Public water supply
	The discharge of nutrients, primarily phosphorus or nitrogen, to waters of the Commonwealth will be limited or prohibited by the Division as necessary to prevent excessive eutrophication of such waters. There shall be no new or increased discharges of nutrients into lakes and ponds, or tributaries thereto. Existing discharges containing nutrients which encourage eutrophication or growth of weeds or algae shall be treated. Activities which may result in non-point discharges of nutrients shall be conducted in	

State	Criteria Values in mg/l	Designated Stream Use
Massachusetts (con't)	accordance with the best management practices reasonably determined by the Division to be necessary to preclude or minimize such discharges of nutrients.	
Michigan[20]	Not specified	All
	Nutrients originating from domestic, industrial, municipal or domestic animal sources shall be limited to the extent necessary to prevent stimulation of growths of aquatic rooted, attached and floating plants, fungi or bacteria which are or may become injurious to the designated uses of the waters of the state.	All
	(1) Toxicity of undefined toxic substances not specifically included in subrules (2) and (3) shall be determined by development of 96-hour TLM's or other appropriate effect and points obtained by continuous flow or in situ bioassays using suitable test organisms. Concentrations of undefined toxic substances in the waters of the State shall not exceed safe concentrations as determined by applying an application factor, based on knowledge of the behavior of the toxic substances and the organisms to be protected in the environment, to the TLM or other appropriate effect end point.	
	(2) For all waters of the State, unless on the basis of recent information, a more restrictive limitation is required to protect a designated use, concentrations of defined toxic substances, including heavy metals, shall be limited by application of the toxic substances, recommendations contained in the chapter on Freshwater Organisms, "Report of the National Technical Advisory Committee to the Secretary of the Interior, Water Quality Criteria, 1968," or by application of any toxic effluent standard, limitation or prohibition promulgated by the Administrator of the United States Environmental Protection Agency pursuant to section 307(a) of the United States Public Law 92-500, whichever is more restrictive.	

State	Criteria Values in mg/l	Designated Stream Use
Michigan (con't)	(3) In addition to the standards prescribed in subrules (1) and (2), waters of the State used for public water supply shall, at the point of water intake, not exceed the permissible inorganic and organic chemicals criteria for raw public water supply in "Report of the National Technical Advisory Committee to the Secretary of the Interior, Water Quality Criteria, 1968," except that chlorides shall be limited to the same extent as prescribed by rule 1051(2).	
Minnesota[21]	Nitrates (NO_3) 45.0	Domestic water supply Classes A, B, and C
	0.2 Ammonia (N)	Fisheries and recreation (Class A)
	1.0	Fisheries and recreation (Class B)
	1.5	Fisheries and recreation (Class C)
	Unspecified toxic substances - none at levels hamful either directly or indirectly.	Agriculture and wildlife (Class B)
Mississippi[22]	Not specified	All
Missouri[D]	0.1 Ammonia nitrogen 0.02	Aquatic life Coldwater fishery
	10.0 Nitrate nitrogen	Drinking water supply
Montana[23]	Not specified	All
Nebraska[24]	Ammonia as N- Seasonal limits assigned to each designated stream segment with limits ranging from 1 to 6 mg/L.	All
Nevada[25]	Nitrates (NO_3) 0.8 - 7.66 Single Value	Variable
	.07-5.0 Annual average	Variable

State	Criteria Values in mg/l	Designated Stream Use
Nevada (con't)	Nitrates (NO_3) 1.0 - 5.0 Single Value	Variable
	.09 - 1.5 Annual Average	Variable
	Single value and annual average varies for each basin. See Water Pollution Rules, Table 1 thru 55 for specific rivers, lakes, and streams.	
New Hampshire[26]	Not specified	All
New Jersey[27]	Ammonia or ammonium compounds: None, either alone or in combination with other substances, in such concentrations as to affect humans or be detrimental to the natural aquatic biota, produce undesirable aquatic life, or which would render the waters unsuitable for the designated uses. Where sources of public water supply is potential use, none which would cause standards for drinking water to be exceeded after appropriate treatment.	All
	Nitrate Nitrogen 2.0	All uses in FW-central Pine Barrens
	3.0	All uses in FW-lower Mullica and Wading Rivers Central Pine Barrens.
New Mexico[28]	Not specified	All
	Surface waters shall be free of nitrogen and other dissolved gasses at levels above 110% saturation when supersaturation is attributable to municipal, industrial or other discharges.	
New York[29]	Nitrates: Not specified	All
	Nitrites: Not specified	All
	Ammonia or ammonium compounds: 2.0 as NH_3 at pH of 8.0 or above	Water supply source for drinking, culinary or food processing; fish life

State	Criteria Values in mg/l	Designated Stream Use
North Carolina[30]	10.0 Nitrate nitrogen	Drinking water supply (treatment plus disinfection)
North Dakota[31]	Nitrates: 1.0 - 1.5 (depending upon type of drinking water treatment process utilized)	All
	NO_3 as N: 0.375 (goal)	All lake uses
Ohio[32]	Ammonia: 0.1 - 13.0 depending upon temperature and pH	All except Ohio River uses
	The concentration of un-ionized ammonia (NH_3) shall not exceed 0.05 mg/l, un-ionized ammonia shall be determined for values for total ammonia N, pH and temperature and the following equation: Un-ionized ammonia = 1.3 (total ammonia-N)/ $1 + 10^{(pk_a - pH)}$ where pk_a = 0.0902 + 2730/273.2 + T) and T = Temperature in degrees C	All Ohio River uses
	Nitrate-N plus Nitrite-N: 10.0	All Ohio River uses
	Nitrite-N: 1.0	All Ohio River uses
	Nitrate-N: 10.0	Public water supply
	Nitrates plus nitrites: 100.0	Agricultural water supply
	Ammonia as Nitrogen 0.2 - 13.0 mg/l depending on temperature and pH	Warm water habitat
	0.1 - 6.5 mg/l depending on temperature and pH	Lake Erie, exceptional warm water and cold water habitat
	1.5 - 12.8 mg/l depending on temperature and pH	Seasonal warm water habitat
	0.2 - 13.0 mg/l depending on temperature and pH except as indicated for specific streams	limited warm water habitat
	Nitrate - N; 10.0 mg/l	Lake Erie and public water supply
	Nitrates plus nitrites: 100.0 mg/l	Lake Erie and agricultural water supply

State	Criteria Values in mg/l	Designated Stream Use
Ohio (con't)	Ammonia not greater than 12.0 mg/l from 12/1/74 to 6/30/76; nor greater than 8.0 mg/l from 7/1/76 to 1/1/79	Lower Cuyahoga River
	Toxic substances less than 1/10 x 96 hr TLM (Applies to Ammonia)	Mahoning River
Oklahoma[33]	Nitrates as N: 10.0	Drinking water supply
Oregon[34]	Not specified	All
Pennsylvania[35]	Nitrite plus Nitrate: 10.0 (as nitrogen)	All
	Ammonia nitrogen: 0.5 - 1.5	
	Note: See Drainage lists A through E of Pennsylvania Water Quality Standards for applicable uses and streams	
Rhode Island[36]	Not specified	All
	Chemical constituents narrative: bioassays shall be performed as required.	Fisheries (fresh water)
	Chemical constituents narrative: the limit prescribed by the USEPA will be used where not superseded by more stringent state requirements.	Public drinking water supplies (fresh water)
South Carolina[37]	Not specified	All
South Dakota[38]	10.0 Nitrates 50.0	Domestic water supply Wildlife propagation
	0.02 un-ionized Ammonia (as N)	Domestic water supply, cold water fish
	0.04 un-ionized ammonia (as N)	Warm water fish (permanent and semi-permanent)
	0.05	Warm water fish (marginal)

State	Criteria Values in mg/l	Designated Stream Use
South Dakota (con't)	Nitrites: Not specified	All
Tennessee[39]	Not specified	All
Texas[40]	Not specified	All
Utah[41]	NH_3 as N 0.02 (un-ionized)	Aquatic life
	NO_3 as N 0.02	Aquatic life, recreation and aesthetics
Vermont[42]	There shall be no discharge of wastes to Class A waters that do not meet or exceed the technical and other requirements for such waters nor shall there be any discharge of wastes containing any form of nutrients which would encourage eutrophication or growth of weeds or algae. There shall be no new or increased discharge of wastes after May 27, 1971 containing any form of nutrients which would encourage eutrophication or growth of weeds and algae in any lake, pond or reservoir. Any discharge of wastes existing prior to May 27, 1971 containing soluble or other nutrients which would encourage eutrophication or growth of weeds and algae in any lake, pond, or reservoir shall receive the highest practical degree of treatment currently available to remove such nutrients.	All
Virginia[43]	Nitrates plus nitrites: 10.0 (as N)	Public water supply
Washington[44]	Not specified	All
West Virginia[45]	45.0 Nitrates	All
Wisconsin[46]	NH_3 - N	
	3.0 mg/l during warm temperature 6.0 mg/l during cold temperatures	Intermediate aquatic life waters

State	Criteria Values in mg/l	Designated Stream Use
Wyoming[47]	0.02 Ammonia as (N)	All cold water fisheries
American Samoa[E]	The naturally occurring atomic ratio of NO_3-N to PO_4-P in a body of water will be maintained. Similarly, the ratio of inorganic phosphorus (orthophosphate) to total phosphorus (the sum of inorganic phosphorus, dissolved organic phosphorus, and particulate (phosphorus) will be maintained in the ratio and amount as it occurs in the receiving waters naturally.	All
District of Columbia[48]	Ammonia - 0.02 mg/l as unionized ammonia	All waters
	Nitrates/Nitrites - 10 mg/l max. as nitrate (N)	Domestic water supply
Guam[F]	Total nitrogen shall not exceed 0.40 mg/l	AA
	Total nitrogen shall not exceed 0.75 mg/l	A, 2b-I, 2b-II, C
	Total nitrogen shall not exceed 1.5 mg/l	2a-I, 2a-II
Puerto Rico[49]	10.0 Nitrate plus Nitrite (as N)	All surface waters
	5.0 Nitrogen (NO_2, NO_3, NH_3	All coastal waters
Trust Territories[G]	0.01 Ammonia (N)	Drinking water supply
	The naturally occurring ratio of the concentrations of nitrogen to phosphorus will be maintained in all waters.	All
Virgin Islands[H]	Not specified	All

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